

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 06-169440

(43)Date of publication of application : 14.06.1994

(51)Int.Cl.

H04N 5/64

(21)Application number : 04-319737

(71)Applicant : HITACHI LTD

(22)Date of filing : 30.11.1992

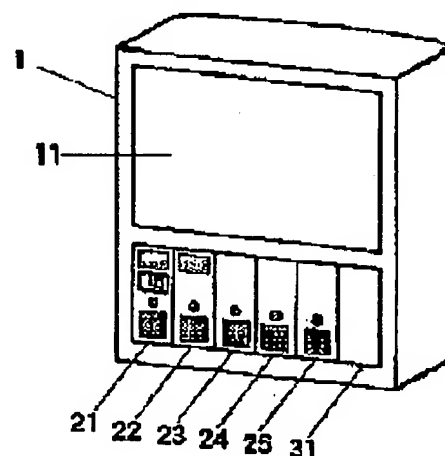
(72)Inventor : TAJIMA HISANOBU
KITO KOJI
ARAI IKUYA

(54) TELEVISION RECEIVER

(57)Abstract:

PURPOSE: To easily add a function without exchanging a main body by constituting a device of one or plural modules, and making the modules easily attachable and detachable.

CONSTITUTION: This device is constituted of one or plural modules 21-25, and the modules can be easily attachable and detachable to or from a main body 1. Those modules 21-25 are equipped with different functions, and the intrusion of dust or the like can be prevented by attaching a cover 31 to a part where the modules 21-25 are not attached. At the time of adding the new function by a user, the cover 31 is detached, and the necessary module is attached, so that the function can be easily added. And also, a performance can be improved by exchanging the already attached modules 21-25 with the function of a high performance. Thus, it is not necessary to exchange the main body 1, waste can be reduced, and at the time of operating disposal, an easy resolution can be attained, and a disposal cost can be reduced.



LEGAL STATUS

[Date of request for examination] 20.10.1997

[Date of sending the examiner's decision of rejection] 13.06.2000

06-169440

14.06.1994

TELEVISION RECEIVER

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the television receiver used for ordinary homes.

[0002]

[Description of the Prior Art] Conventionally, the television receiver used for ordinary homes consisted of a graphic display function with the function which displays an image on the Braun tube, an audio function which outputs voice from a loudspeaker, and a VHF/UHF tuner function which restores to VHF or a UHF signal to a video signal and an audio signal. In such a television receiver, when displaying the regenerative signal of a video tape recorder, the television receiver and the video tape recorder were connected using the video cable and the audio cable. In recent years, in addition to former VHF/UHF broadcast, broadcast of new methods, such as satellite broadcasting service (BS broadcast is called hereafter.), a teletext, CS (Communication Satellite) broadcast, and high-definition television broadcasting, is started. In order to watch broadcast of these new methods with the television receiver which consists of the above-mentioned configuration, an external instrument called a broadcasting satellite tuner, a teletext adapter, CS tuner, and a Muse-NTSC converter (a M-N converter is called hereafter.) needed to be connected to the television receiver like the case of a video tape recorder, respectively. An example of such continuation is indicated by "NHK television technical textbook (below)" (edited by Japan Broadcasting Corporation, the September 20, Heisei 3 3rd ***** P.267-P.269.

[0003]

[Problem(s) to be Solved by the Invention] However, the place for a large external instrument is needed, and in order to attach many external instruments with the above-mentioned function, since it is necessary to connect many video cables and audio cables, it becomes indecent.

[0004] So, recently, the television receiver which contained some of functions of the television receiver which contained the function corresponding to the new broadcasting format mentioned above, i.e., the above-mentioned broadcasting satellite tuner, a teletext adapter, CS tuner, and a M-N converter also exists. The television receiver which contained such a function needs to connect neither not needing the place for an external instrument nor a video cable nor an audio cable compared with the approach of connecting an external instrument, and is convenient. When the user of a television receiver, on the other hand, wanted to add new functions, such as a Picture-in-Picture (for PinP to be called hereafter.) function and a stereo surround function, and it wants, it is necessary to exchange the body of a television receiver, and there is a fault that trash increases. Moreover, it is hard to decompose and the above-mentioned

- multifunctional television receiver has the fault that abandonment cost starts.

[0005] The purpose of this invention is to cancel the above-mentioned fault.

[0006]

[Means for Solving the Problem] This invention makes each function the configuration of module in order to attain the above-mentioned purpose, it carries out it to the configuration which can build those modules in the body of a television receiver, and enabled it to choose each module if needed for a user.

[0007]

[Function] With the above-mentioned means, in case a new function is needed, the addition of a function can be easily enabled by adding a module to a television receiver, without exchanging the body of a television receiver.

[0008] Moreover, the engine performance can be easily raised by transposing a module to a highly efficient object, without exchanging the body of a television receiver.

[0009] Moreover, when a module breaks down, it can fix by fixing or exchanging only the module, and it can fix easily rather than it fixes or exchanges the whole television receiver.

[0010] Consequently, it is effective in trash decreasing in number. Moreover, when discarded, it is effective in the ability to reduce abandonment cost that it is easy to decompose.

[0011]

[Example]

(Example 1) Drawing 1 is one example of the television receiver which used this invention. As for the Braun tube, and 21, 22, 23, 24 and 25, for 1, in drawing 1, the body of a television receiver and 11 are [a module and 31] lids. In this example, it is the description to have composition which can build a module in the lower part of the body 1 of a television receiver. A module 21, a module 22, a module 23, a module 24, and a module 25 are modules with a respectively different function, and have come to be able to do removal with the body 1 of a television receiver easily. It has the composition of attaching a lid 31 so that a contaminant etc. may not go into the part which does not attach a module. When [at which it wanted] a user wants to add a new function by considering as this configuration, a lid 31 is removed and a function can be easily added by attaching a required module. Moreover, the engine performance of a television receiver can be raised by exchanging the already attached module for a highly efficient object.

[0012] (Example 2) Drawing 2 is an example of the module in this invention. The module 21 in drawing 2 has the VHF/UHF tuner function. For a pilot lamp and 213, as for a part for a channel display, and 215, in drawing 2, a part for the light sensing portion of remote control and 214 are [211 / an electric power switch and 212 / a circuit part and 216] buses. In this example, when not using the function of a module 21, unnecessary power consumption can be held down by turning off an electric power switch 211. When the electric power switch 211 is turned off, it has composition which a pilot lamp 212 switches off, and can judge easily whether the module 21 is operating from the outside. Moreover, it has the remote control light sensing portion 213 so that the channel displayed on the screen of a television receiver may be changed with remote control. Moreover, it has a part for the channel display 214 so that the channel chosen with remote control may be known from the outside. The circuit of this module 21 is carried in the circuit part 215. This module is connected with the body of a television receiver by the bus 216.

[0013] (Example 3) Drawing 3 is one another example of the television receiver which used this invention. For 1, as for a module and 31, in drawing 3, the body of a television receiver, and 21, 22, 23 and 24 are [a lid and 41] input/output terminals. Drawing 3 shows drawing which looked at the body 1 of a television receiver from the tooth-back side. In this example, a module attaching position is used as the rear face of the body 1 of a television receiver, and since the module has structure arranged in the clearance between the Braun tubes, compared with the example of drawing 1, the volume of the body 1 of a television receiver can be made small. In addition, an input/output terminal 41 is for connecting with external instruments, such as a videocassette recorder.

[0014] (Example 4) Drawing 4 is an example of a block diagram which carried out this invention. drawing 4 - setting -- 1 -- for a module and 41, as for graphic display functional block and 61, an input/output

terminal and 51 are [the Braun tube, and 21, 22, 23, 24, 25 and 26 / the body of a television receiver, and 11 / a loudspeaker and 71] antennas. Among these, the Braun tube 11, an input/output terminal 41, the graphic display functional block 51, and a loudspeaker 61 are built in the body 1 of a television receiver, and have composition whose removal is simply impossible. On the other hand, a module 21, a module 22, the module 23, the module 24, the module 25, and the module 26 serve as the body 1 of a television receiver with the dismountable configuration easily. The module and the module 26 with teletext adapter ability in the module and the module 25 with a broadcasting satellite tuner function in the module and the module 24 with an audio amplifier function in the module and the module 23 with selector ability in the module and the module 22 with [module / each] a VHF/UHF tuner function in a module 21 are a module with M-N converter ability.

[0015] Hereafter, actuation of this example is explained briefly. A module 21, a module 24, a module 25, and a module 26 input the signal from an antenna 71, and output a video signal and an audio signal. Those video signals and audio signals are inputted into a module 22, one video signal and one audio signal are chosen, a video signal is inputted into the graphic display block 51, and an audio signal is inputted into a module 23 by the module 22. The graphic display functional block 51 displays the inputted video signal on the Braun tube 11. A module 23 amplifies an audio signal and outputs voice from a loudspeaker 61. It is not necessary to connect from the beginning and a module 24, a module 25, and a module 26 can extend a function by connecting later in this example. Moreover, the engine performance of a television receiver can be improved by having this function and exchanging one or more modules to a highly efficient module.

[0016]

[Effect of the Invention] It becomes possible to add the function of a television receiver, without connecting the body of a television receiver with exchange or an external instrument by a video cable etc. by applying this invention. Moreover, it becomes possible to raise the engine performance of a television receiver, without exchanging the body of a television receiver.

[0017] Consequently, trash decreases in number, and when discarded, it is effective in the ability to reduce abandonment cost that it is easy to decompose.